Using Cellular Phones to Enhance a Parenting Intervention for Families at Risk for Neglect
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Abstract
A study evaluating the effectiveness of a cellular-phone enhanced parenting intervention for families at risk for neglect is described. First-time parents at risk for neglect were randomly assigned to one of three conditions: a parenting intervention which focused on improving interactions and preventing challenging child behavior (Planned Activities Training), cell phone-enhanced Planned Activities Training, or a wait-list control group. Parents assigned to the cell phone-enhanced intervention group were provided with a cellular phone to increase contact with a family coach through text messaging and phone calls. Increases in parent use of PAT, positive parent-child interactions, and parent retention are presented.

Introduction
• The good news about parenting programs for preventing and treating child maltreatment is that empirically supported behavioral parenting programs have been shown to be effective in preventing child maltreatment.
• The bad news is that we still have some challenges.
  - Engagement: Lack of parent engagement during intervention
  - Attrition: Parents fail to complete the program
  - Generalization: Parents fail to incorporate new skills into everyday routines
  - Fidelity: Inadequate implementation of intervention
• Cell phones can help by:
  - Reducing incidence of families dropping out of the intervention
  - Keeping families more actively engaged in the intervention
  - Helping families learn to apply target parenting skills throughout their daily interactions with their child
  - Helping families use parenting skills correctly and more often throughout their day.
• Cell phones have been used with other high-risk populations:
  - Compliance in use of HIV medications
  - Smoking cessation
  - Reinforcing parents’ early literacy skills with their children

Major Hypothesis
• Cell Phones added to an evidence-based intervention, Planned Activities Training (one component of SafeCare©) will enhance its effectiveness in:
  - Improving parent engagement and retention
  - Improving parenting
  - Enhancing child behavior outcomes

Intervention Design
• Parents randomly assigned to one of three groups:
  - Planned Activities Training (PAT) (n=32)
  - Cell Phone Enhanced PAT (n=29)
  - Wait-list Control (n=31)
• Assessments conducted at pre– and post-test, 6 month, and 12 month post-intervention

Description of the Three Groups
• Planned Activities Training
  - Focus on engaging child in daily routines, setting the occasion for good behavior.
  - Teaches parents to plan for daily activities, provide simple activity explanations and rules, use positive interaction skills, and rewards for good behavior.
  - PAT steps include:
    ✓ Prepare in advance
    ✓ Explain the activity
    ✓ Explain the rules for the activity
    ✓ Explain the rewards and consequences
    ✓ Give choices
    ✓ Talk about what you are doing
    ✓ Be child-friendly
✓ Ignore minor misbehavior
✓ Tell your child how he or she did
✓ Give rewards for good behavior

- Taught in 5-7 in-home sessions, in parent-selected activities or routines (play, meals, bedtime, etc).
- Mastery criterion met when parent scores 90% correct on 3 different routines/activities.

- **Cell Phone-Enhanced PAT**
  - In addition to PAT, cell phone and service provided for use during intervention
  - Two individualized text messages related to PAT, parent-child interactions, or child behavior sent 5 days per week
    - Text message prompts, such as:
      - “Remember to give your child some choices today.”
      - “Don’t forget to hug your child today.”
      - “It can be hard, but try to ignore minor behavior problems.”
      - “If you give rules, try to make them simple and easy to follow.”
      - “Try to make a little time today to just play or read books together.”
    - Text message questions, such as:
      - “Did you catch your child being good today?”
      - “How did bath time go last night?”
      - “Did you have fun with your child today?”
      - “How did those new rules we talked about work out?”
      - “What is one way you praised your child today?”
    - Some text messages not related to intervention, such as:
      - Free or low-cost community activities
      - Quotes, tips, jokes
      - Supportive messages
        - “How did your job interview go?”
        - “Hope you’re feeling better today”
        - “You two did such a great job today during our visit! Way to go!”
  - Phone contact between home visits, including parent calls to coach returned within 24 hours, and calls to parent between each home visit

- **Wait-List Control**
  - Assessed at same points in time, but did not receive any intervention.

**Sample**
- Sample recruited from existing sample from a larger, longitudinal study
- 92 first-time mothers and first-born children at risk for neglect
- 53% African-American; 27% White, non-Hispanic; 17% Hispanic; 3% Multi-racial
- Mothers’ mean age: 25.44 yrs (SD=4.84)
- Children's mean age: 4.67 yrs (SD=0.39), 58% male
- 13% Mothers were married
- 45% Mothers employed
- 36% Mothers received TANF
- 38% completed some training beyond high school

**Measures**
- **Demographics**
- **Parenting Strategies and Parent-Child Interactions**
  - PAT steps (Bigelow & Lutzker, 2002)
  - Keys to Interactive Parenting Scale (KIPS; Comfort & Gordon, 2006)
- **Child Engagement and Behavior**
  - Child Behavior Rating Scale (Carta, 2006)
  - Behavior Assessment System for Children 2 (BASC-2; Reynolds & Kamphaus, 2002)
- Parent retention rates

**Results**
Higher Retention Rate for CPAT Group

- 76% of CPAT families completed the intervention
- 53% of PAT families completed the intervention

Mothers’ Fidelity of Implementation of PAT in Generalization Task: Play-Doh Activity

- At post-test and 12-month follow-up, CPAT and PAT mothers had significantly greater increases in use of PAT compared to control mothers
- At 6-month follow-up, PAT mothers had significantly greater increases in use of PAT compared to controls

Mothers’ Fidelity of Implementation of PAT in Generalization Task: Clean-Up Steps

- At post-test, CPAT and PAT mothers had significantly greater increases in use of PAT compared to control mothers
- At 12-month follow-up, only CPAT mothers had significantly differences compared to controls

Mothers’ Fidelity of Implementation of PAT: Free Play

- At post-test, no significant differences between groups in use of PAT
- At 12-month follow-up, only PAT mothers had significantly greater increases in use of PAT compared to control mothers

Keys to Interactive Parenting Scale: Total Score Pre and Post Differences

- At post-test and 6-month follow-up, CPAT and PAT mothers had significantly greater increases, compared to control mothers
- At 12-months, PAT mothers had significantly greater increases compared to control mothers

Child Behavior Rating Scale
At post-test, PAT children showed significant increases compared to control children in engagement and positive interactions.

At 6-month, and 12-month follow-up, both CPAT and PAT children had significantly greater increases than control children.

Behavior Assessment System for Children 2: Adaptability Scale

Conclusions

- Parent Retention
  - CPAT families had higher retention rate, with 76% of CPAT families completing the intervention, and 53% of PAT families completing the intervention.
  - Mothers’ Fidelity of Implementation of PAT:
    - Use of PAT during a play-doh activity, a generalization task, increased significantly for mothers receiving CPAT or PAT at post-test and 12-month follow-up compared to use of PAT for control mothers.
    - During clean-up, a generalization task, mothers receiving both CPAT and PAT had greater increases at post-test, and at 12-month follow-up. At the 12-month follow-up, only CPAT mothers maintained this significantly greater increase in use of PAT compared to control mothers.
    - During free-play, there were no significant differences at post-test or 6 months, but PAT mothers had significantly greater increases in use of PAT compared to control mothers at 12 months follow-up.

- Parent-Child Interactions
  - Responsive parenting strategies increased for both PAT and CPAT mothers compared to control mothers at post-test and 6-month follow-up. At 12-month follow-up, PAT mothers maintained this significantly greater increase compared to control mothers.

- Child engagement and behavior
  - Increases in child positive interactions and engagement with the parent during a play-doh activity, clean-up, and a free play activity were significantly greater for PAT families at post-test, and for both PAT and CPAT families at the 6-month and 12-month follow-up.

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